IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Before the Board of Patent Appeals and Interferences

In re Patent Application for:

    Chris Fry

Application No.: **10/733,599**

Filed: December 11, 2003

For: SYSTEMS AND METHODS FOR
          LIGHTWEIGHT CONVERSATIONS

Examiner: Chang, Jungwon

Art Unit: 2154

Confirm No.: 8210

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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPELLANTS' BRIEF ON APPEAL

Dear Sir:

    Appellants submit the following Appeal Brief pursuant to 37 C.F.R. § 1.192 for consideration by the Board of Patent Appeals and Interferences. Appellants submitted a Notice of Appeal along with the appropriate fee on September 5, 2006.

I. REAL PARTY IN INTEREST

BEA Systems, Inc. is the real party in interest.

II. RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences which will affect or be affected by the outcome of this appeal.

III. STATUS OF CLAIMS

Claims 1-11, 20-32, 34-37, 39-46, 48-51, and 53-60 are pending in this application. The rejection of claims 1-11, 20-32, 34-37, 39-46, 48-51, and 53-60 is appealed.

IV. STATUS OF AMENDMENTS

Subsequent to the August 7, 2006 response to the Final Office Action dated June 5, 2006, Appellants did not file any amendments.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The present invention claims a lightweight approach to conversation management in a cluster, where all state information can be kept in-memory on computing devices in the cluster in order to improve performance. A conversation manager can be used to keep track of state location throughout the cluster. When a computing device in the cluster receives a request for a state during a conversation, that computing device can contact the conversation manager to determine the location of the state within the cluster. Once the conversation manager provides the computing device with the location of the state, the computing device can invoke the state for the conversation.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

In the Advisory Action dated August 16, 2006, Examiner disagrees with Applicant's argument made in responses filed on March 15, 2006 and again on August 7, 2006 that the concept of "conversation" in the present invention is totally distinct from the concept of "conversation" taught in the prior art.

VII. ARGUMENT

A. Overview of the Cited Art

Iyer (2001/0037367) teaches "sharing of information via a virtual area by multiple parties in a communication network" (page 1, [0002], line 3-5), wherein "[T]he user device is allowed to connect to the shared area and pick up a piece of information for transmission to the user device" (page 1, [0008] line 4-6).

Yamamoto (2003/0037110) teaches area chat rooms that allow users to carry portable terminals (Abstract).

Yasue (2003/0009525) teaches monitoring of harassment messages sent by a user (Abstract).

Eide (2004/0078455) teaches apparatus "that assists in the distribution of configurations data such as VPD for a switchable resource to multiple nodes within a clustered computer system" (page 1, [0010], line 2-6).

B. Whether claims 1-6, 9-11, 20-32, 34, 37, 39-46, 48, 51 and 53-60 are unpatentable under 35 U.S.C. 103(a) over Iyer, in view of Yamamoto and Yasue

The conversation discussed in the present application is an entirely different concept from the conversation disclosed in Iyer, Yamamoto and Yasue. More specifically, Iyer, Yamamoto and Yasue all teach information shared via a virtual area

(Iyer), a chat room (Yamamoto) or via messages (Yasue) between/among by people - owners, users, or customers. In contrast, the present invention teaches conversations between computer processes running on computer devices in the context of business applications. As understood by one skilled in the art, a computer process is a running instance of a computer program with all of its variables and states, and conversations initiated by the computer processes are a collective set of well-defined and ordered message exchanges between them. Such conversations are fundamentally different from human conversations initiated by users in Iyer, Yamamoto and Yasue, which are casual and random by nature of human communication, even though they may be conducted via computing devices as the Examiner pointed out. Therefore, Iyer in view of Yamamoto and Yasue cannot render independent claims 1, 10, 29, 30, 43, 44, 57 and 58 obvious. Since claims 5-6 and 9 depend on claim 1, claims 11, 20-28 depend on claim 10, claims 31, 32, 34, 37, 39-42 depend on claim 29, claims 45, 46, 48 and 51-56 depend on claim 43, claims 1-6, 9-11, 20-32, 34, 37, 39-46, 48 and 51-58 cannot be rendered obvious by Iyer in view of Yamamoto and Yasue under 35 U.S.C. § 103(a) for at least this reason, and Applicant respectfully requests that the rejection with respect to these claims be withdrawn.

C.   **Whether claims 7, 8, 35, 36, 49 and 50 are unpatentable under 35 U.S.C. 103(a) over Iyer, Yamamoto, Yasue, further in view of Eide**

Eide does not teach a conversation between processes as claimed by the present invention. As discussed above, Iyer, Yamamoto and Yasue cannot anticipate a conversation between processes either. Since claims 7 and 8 depend on claim 1, claims 35 and 36 depend on claim 29, and claims 49 and 50 depend on claim 43, Iyer in view of

Yamamoto, Yasue, further in view of Eide cannot render the present invention in claims 7, 8, 17, 18, 35, 36, 49 and 50 obvious under 35 U.S.C. § 103(a) for at least this reason, and Applicant respectfully requests that the rejection with respect to these claims be withdrawn.

Based on the foregoing, Appellants request that the Board overturn the Examiner's rejection of all pending claims and hold that all of the claims of the present application are allowable.

Respectfully submitted,

Dated: ___January 5, 2007_____   _____/David T. Xue/_____
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VIII. CLAIMS APPENDIX

The claims involved in this Appeal are as follows:

1. (Previously presented) A system to provide conversation states, comprising:

 a first computing device capable of:

  running a process on the first computing device; and

  accepting a message during a conversation between the process running on the first computing device and another process;

 a second computing device capable of:

  maintaining a state requested by the message; and

  storing information of the state in memory on the second computing device; and

 a conversation manager capable of:

  identifying the location of the second computing device which maintains the state requested by the message; and

  providing the location and/or the information of the state to the first computing device.

2. (Previously presented) The system according to claim 1, wherein:

 the first and second computing devices form a cluster.

3. (Original) The system according to claim 1, wherein:

 the conversation manager is capable of maintaining the locations of all states in the system.

4. (Previously presented) The system according to claim 1, wherein:

 the information may include, a map of every state leased, owned, or stored on the second computing device.

5. (Previously presented) The system according to claim 1, wherein:

    the first and second computing devices can be the same computing device.

6. (Previously presented) The system according to claim 1, wherein:

    the second computing device is capable of maintaining the information both in-memory and on persistent storage.

7. (Previously presented) The system according to claim 1, wherein:

    the conversation manager is capable of designating the second computing device as the primary and replicating the information on the second computing device to a third computing device.

8. (Previously presented) The system according to claim 7, wherein:

    the conversation manager is capable of routing to the third computing device and setting it as the new primary when the second computing device fails.

9. (Previously presented) The system according to claim 1, wherein:

    the conversation manager is capable of periodically determining the availability of the second and third computing devices.

10. (Previously presented)   A system to provide conversation for Web service, comprising:

    a conversation partner, which is a process, capable of providing a message during a conversation between the conversation partner and a process running on a first computing device;

    said first computing device capable of accepting a message during the conversation with the conversation partner;

a second computing device capable of:

    maintaining a state requested by the message; and

    storing information of the state in memory on the second computing device; and

a conversation manager capable of:

    identifying the location of the second computing device which maintains the state requested by the message; and

    providing the location and/or the information of the state to the first computing device.

11. (Original) The system according to claim 10, wherein:

    the message includes a conversation ID.

12-19. (Canceled).

20. (Previously presented) The system according to claim 11, wherein:

    the first computing device is capable of contacting the conversation manager to determine the location of the state requested by the message using the conversation ID.

21. (Previously presented) The system according to claim 10, wherein:

    the first computing device is capable of answering a request for the state directly without contacting the conversation manager if it owns such state.

22. (Previously presented) The system according to claim 10, wherein:

    the conversation manager is capable of accepting a request for the location of the state from the first computing device.

23. (Previously presented) The system according to claim 11, wherein:

the conversation manager is capable of providing the location and/or the information of the state to the first computing device requesting it based on the conversation ID.

24. (Previously presented) The system according to claim 10, wherein:

the first computing device is capable of accepting the location of the state from the conversation manager.

25. (Previously presented) The system according to claim 10, wherein:

the first computing device is capable of invoking the state on the second computing device in order to respond to the conversation message received.

26. (Previously presented) The system according to claim 10, wherein:

the conversation manager is capable of sharing the state with at least two conversations.

27. (Previously presented) The system according to claim 10, wherein:

the conversation manager is capable of tracking a participating Web service that initiates the conversation.

28. (Previously presented) The system according to claim 27, wherein:

the conversation manager is capable of sharing the state with at least two Web services and joining the sessions of these services.

29. (Previously presented) A method to provide a conversation for a Web service, comprising:

maintaining a state on a computing device;

storing information of the state in memory on the computing device;

accepting a message requesting the state during a conversation between two processes;

contacting a conversation manager to determine the location of the state requested by the message;

accepting the location and/or the information of the state from the conversation manager; and

invoking the state on the computing device in order to respond to the conversation message.

30. (Previously presented) A method to provide a conversation for a Web service, comprising:

maintaining a state on a computing device;

storing information of the state in memory on the computing device;

accepting a message requesting the state during a conversation between two processes; and

invoking the state on the computing device in order to respond to the conversation message received directly at the computing device without contacting a conversation manager.

31. (Original) The method according to claim 29, further comprising:

maintaining the locations of all states in the system on the conversation manager.

32. (Previously presented) The method according to claim 29, further comprising:

maintaining on a the computing device its state information, which may include, a map of every state leased, owned, or stored on it.

33. (Canceled).

34. (Previously presented) The method according to claim 32, further comprising:

maintaining the state information on the computing device both in-memory and on persistent storage.

35. (Previously presented) The method according to claim 32, further comprising:

designating the computing device as the primary and replicating the state information on the computing device to another computing device.

36. (Previously presented) The method according to claim 35, further comprising:
   routing to the another computing device; and
   setting it as the new primary when the current primary computing device fails.

37. (Previously presented) The method according to claim 29, further comprising:
   determining the availability of the computing devices periodically.

38. (Canceled).

39. (Previously presented) The method according to claim 29, further comprising:
   accepting request for the location of the state from a computing device; and
   providing the location of the state to the computing device requesting it.

40. (Previously presented) The method according to claim 29, further comprising:
   sharing the state with at least two conversations.

41. (Previously presented) The method according to claim 29, further comprising:
   tracking a participating Web service that initiates the conversation.

42. (Previously presented) The method according to claim 41, further comprising:
   sharing the state with at least two Web services; and
   joining the sessions of these services.

43. (Previously presented) A machine readable medium having instructions stored thereon that when executed by a processor cause a system to:

maintain a state on a computing device;

store the information of the state in memory on the computing device;

accept a message requesting the state during a conversation between two processes;

contact a conversation manager to determine the location of the state requested by the message;

accept the location and/or the information of the state from the conversation manager; and

invoke the state on the computing device in order to respond to the conversation message.

44. (Previously presented) A machine readable medium having instructions stored thereon that when executed by a processor cause a system to:

maintain a state on a computing device;

store information of the state in memory on the computing device;

accept a message requesting the state during a conversation between two processes; and

invoke the state on the computing device in order to respond to the conversation message received directly at the computing device without contacting a conversation manager.

45. (Original)   The machine readable medium of claim 43, further comprising instructions that when executed cause the system to:

maintain the locations of all states in the system on the conversation manager.

46. (Previously presented)   The machine readable medium of claim 43, further comprising instructions that when executed cause the system to:

maintain on the computing device information, which may include, a map of every state leased, owned, or stored on it.

47. (Canceled).

48. (Previously presented)   The machine readable medium of claim 46, further comprising instructions that when executed cause the system to:

maintain the state information on the computing device both in-memory and on persistent storage.

49. (Previously presented)   The machine readable medium of claim 48, further comprising instructions that when executed cause the system to:

designating the computing device as the primary and replicating the state information on the computing device to another computing device.

50. (Previously presented) The machine readable medium of claim 49, further comprising instructions that when executed cause the system to:

route to the another computing device; and

set it as the new primary when the current primary computing device fails.

51. (Previously presented)   The machine readable medium of claim 43, further comprising instructions that when executed cause the system to:

check for the availability of the computing devices periodically.

52. (Canceled).

53. (Previously presented)   The machine readable medium of claim 43, further comprising instructions that when executed cause the system to:

     accept request for the location of the state from a computing device; and

     provide the location of the state to the computing device requesting it.

54. (Previously presented)   The machine readable medium of claim 43, further comprising instructions that when executed cause the system to:

     share the state with at least two conversations.

55. (Previously presented)   The machine readable medium of claim 43, further comprising instructions that when executed cause the system to:

     track a participating Web service that initiates the conversation.

56. (Previously presented)   The machine readable medium of claim 55, further comprising instructions that when executed cause the system to:

     share the state with at least two Web services; and

     join the sessions of these services.

57. (Previously presented) A system for handling conversation, comprising:

     means for maintaining a state on a computing device;

     means for storing information of the state in memory on the computing device;

     means for accepting a message requesting the state during a conversation between two processes;

     means for contacting a conversation manager to determine the location of the state requested by the message;

     means for accepting the location and/or the information of the state from the conversation manager; and

     means for invoking the state on the computing device in order to respond to the conversation message.

58. (Previously presented)   A computer data signal embodied in a transmission medium, comprising:

a code segment including instructions to maintain a state on a computing device;

a code segment including instructions to store information of the state in memory on the computing device;

a code segment including instructions to accept a message requesting the state during a conversation between two processes;

a code segment including instructions to contact a conversation manager to determine the location of the state requested by the message;

a code segment including instructions to accept the location and/or the information of the state from the conversation manager; and

a code segment including instructions to invoke the state on the computing device in order to respond to the conversation message.

59. (Previously presented) The system according to claim 1, wherein:

the conversation can be within the context of a business application.

60. (Previously presented) The system according to claim 1, wherein:

the state can be one of: a program, an application, a service, and a database instance.